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In accordance with the requirements of 37 C.F.R. § 1.121, the attached Appendix shows the changes that have been made by the proposed amendments.

Remarks

I. Status of Claims

Claims 1-76 are pending in this application. Claims 1-36, 40, 42, 44-46, 50-57, 59, 64, and 65 have been withdrawn by the Examiner.

Figure 1 has been submitted herewith. Support for Figure 1 can be found, for example, at page 10 lines 9-16 of the specification as filed (describing the nature of the thermogram and of both peaks observed therein), at page 10, line 17 through page 12, line 9 (describing DSC, the utility of DSC, the experimental procedure, and the scientific theory behind DSC), at page 12, line 10 through page 13, line 11 (explaining the thermogram in Figure 1). Thus, the specification specifically describes the results depicted in the figure and how one of ordinary skill in the art can obtain the results presented in the figure, *i.e.,* how to make the product tested and how to test the product. Thus, the figure is already inherently described and is not new matter.

Claims 37 and 71 have been amended to more clearly describe the claimed invention. Specifically, these claims have been amended to recite that a heat-activated composition. Support for this amendment can be found throughout the application as originally filed, such as, for example, at page 5, line 18, and Examples 2, 4, 5, and 6.

Claims 73-76 have been added. Support for these claims can be found throughout the application as originally filed, such as, for example, at original claim 38,

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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now cancelled, and at page 7, lines 1-5; at page 6, line 12 and Examples 2, 4, 5, and 6; at page 6, lines 14-15; and at page 6, lines 15-22.

Accordingly, since it was clear from the specification that the compositions of the invention required heat activation, these amendments only explicitly state what was implicitly understood to be the scope of the claims in view of the specification. Thus, these amendments in no way narrow the scope of the amended claims, nor do they add new matter.

II. Specification

Applicants have amended the specification by adding the drawing, Figure 1, as requested by the Examiner at page 3 of the present Office Action. Accordingly, this objection has been rendered moot and Applicants respectfully request its withdrawal.

III. Rejections under 35 U.S.C. § 112, second paragraph

Claims 37-39, 41, 43, 47-49, 58, 60-63, and 66-72 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly claim the subject matter which Applicants regard as the invention for the reasons set for on pages 3-4 of the present Office Action.

In order to meet the requirements of 35 U.S.C. § 112, second paragraph, the claims must define the patentable subject matter with a reasonable degree of particularity and precision. M.P.E.P. § 2173.02 (emphasis in original). The Federal

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1300 I Street, NW
Washington, DC 20005
202.408.4000
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Circuit has decided that the definiteness of the claim language must be analyzed, not in a vacuum, but in light of the content of the application disclosure, the teachings of the prior art, and the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. *Id.* The definiteness of a claim is an objective inquiry which evaluates whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art. *See e.g.,* M.P.E.P. § 2171.

Claims 37 and 71

Claims 37 and 71 have been rejected due to the phrase "wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber." Applicants respectfully traverse this rejection.

With respect to the Examiner's claim that this phrase is confusing because the amount of protection or repair is unspecified such that any amount of claimed compound would appear to meet the limitation, Applicants disagree and note that this is not the proper test for definiteness in this case.

"The proper test [of whether the phrase 'an effective amount' is indefinite] is whether or not one skilled in the art could determine specific values for the amount based on the disclosure," *i.e.,* "where those skilled in the art would be able to determine from the written disclosure, including the examples, what an effective amount is." *See*

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M.P.E.P. § 2173.05(c), Subsection (III). In the present case, one of ordinary skill in the art would be able to determine from the written disclosure, including the examples, what an effective amount is. For example, in Examples 2-5, Applicants demonstrate the effect of amino monosaccharides on chemically processed hair. The examples describe a test for determining both the wet tensile strength and the doublet peak area of hair treated with water or the inventive compositions. Various compositions comprising a variety of concentrations of various amino monosaccharides are exemplified. Further, in Example 6, Applicants demonstrate the effect of amino monosaccharides on untreated hair. These examples demonstrate both hair protection and hair repairing by the inventive compositions, how one of skill in the art can determine such effects, and therefore, how an "effective amount" of the least one compound can be determined.

Accordingly, the fact that the amount of protection or repair is unspecified is irrelevant. *See e.g.,* M.P.E.P. § 2173.05(c), Subsection (III). Applicants have recited the functions to be achieved (protection and/or repair) and have demonstrated and explained various tests to determine such functions. Thus, in contrast to the Examiner's assertion, any amount of claimed compound would not meet the present claim limitation - only an amount effect to protect at least one keratinous fiber from extrinsic damage or to repair at least one damaged keratinous fiber is encompassed within the present claims.

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Accordingly, Applicants submit that, based on the specification and examples, one of ordinary skill in the art would be able to determine an "effective amount" of the least one compound according to the present invention. For at least the foregoing reasons, Applicants respectfully request the withdrawal of this reason for rejection.

Claim 38

Claim 38 has been rejected due to the phrase "heat-activated." Specifically, the Examiner asserts that "[i]t is unclear what is meant by the phrase." *See* page 4 of the present Office Action. Although this claim has now been deleted, Applicants address this rejection as it pertains to amended claims 37 and 71.

As noted by the Examiner, Applicants have provided a definition of "a heat-activated" composition at page 7, lines 1-5 of the application as originally filed. Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 U.S.P.Q.2d 1065, 1069 (Fed. Cir. 1999). Thus, as used in the present application, "a heat-activated" composition refers to a composition which, for example, protects and/or repairs the at least one keratinous fiber better than the same composition which is not heated during or after application of the composition.

Applicants submit that such a definition is not unclear and, in fact, is more detailed than the plain literal meaning of the phrase (*i.e.*, activated by heat).

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Throughout the application as originally filed, Applicants have shown how one of ordinary skill in the art may measure the amount of protection and/or repair afforded by various compositions. *See e.g.,* Examples 1-6. Thus, the application clearly provides standards for measuring the amount of protection and/or repair and therefore for determining whether a composition protects and/or repairs at least one keratinous fiber better than the same composition which is not heated during or after application of the composition.

Regarding this definition, the Examiner asks "does the phrase require a chemical change in the composition following heating?" Applicants respectfully note that a chemical change is not required by the present definition. However, a chemical change in the composition may be involved in the process as long as the composition protects and/or repairs the at least one keratinous fiber better than the same composition which is not heated during or after application of the composition.

Claim 62 and 72

Claims 62 and 72 are rejected due to the term "derivatives." The Examiner acknowledges that Applicants have included examples of such derivatives in the specification as originally filed. However, he asserts that despite this guidance, "the metes and bounds of the term are not disclosed.... For example, carbon dioxide can be obtained from the chemical degradation of sugar." *See* page 4 of the present Office Action. Applicants respectfully disagree.

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The definiteness of a claim is an objective inquiry which evaluates whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art. *See e.g.*, M.P.E.P. § 2171. Applicants submit that the metes and bounds of claims 62 and 72 are defined with the requisite reasonable degree of particularity and precision such that it would have been clear to one of ordinary skill in the art. The American Heritage College Dictionary (Third Edition) defines the verb "derive" as "4. *Chem.* To produce or obtain (a compound) from another substance by chemical reaction." Further, The American Heritage College Dictionary (Third Edition), defines "derivative" as "[a] compound derived or obtained from another and containing the essential elements of the parent substance." Thus, one of ordinary skill in the art would recognize that, according to claims 62 and 72, and according to page 17 of the specification, derivatives of at least one compound comprising at least one C_5 to C_7 saccharide unit substituted with at least one amino group may be chosen from compounds produced from compounds comprising at least one C_5 to C_7 saccharide unit substituted with at least one amino group which contain the essential elements of the parent compounds. Thus, in contrast to the Examiner's assertion, as understood by one of ordinary skill in the art, carbon dioxide would not be considered a derivative of at least one compound comprising at least one C_5 to C_7 saccharide unit substituted with at least one amino group derivative, at least because it does not comprise the essential elements of the parent compound.

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For at least the foregoing reasons, Applicants respectfully request that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

IV. Rejections under 35 U.S.C. § 102

A rejection under § 102 is only proper when the claimed subject matter is identically described or disclosed in the prior art. *See In re Arkley*, 455 F.2d 586, 587 (CCPA 1972); *see also* M.P.E.P. § 706.02(a) ("For anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.").

Williams

Claims 37-39, 41, 43, 47-49, 58, and 69-71 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,679,344 ("*Williams*") for the reasons set forth on page 5 of the present Office Action.

Applicants respectfully traverse this rejection, however, in order to expedite the prosecution of the present application, claims 37 and 71 have been amended to recite that the inventive composition is heat-activated. *Williams* does not teach, either explicitly or impliedly, a heat-activated composition for protecting or repairing at least one keratinous fiber according to the present invention. *Williams* also fails to teach each and every limitation of new claims 73-77.

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Accordingly, for at least this reason, Applicants respectfully request withdrawal of this rejection.

Noel

Claims 37-39, 41, 43, 47-49, 58, 60-61, 63, and 68-71 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,141,964 ("*Noel*") for the reasons set forth on page 6 of the present Office Action.

Applicants respectfully traverse this rejection, however, in order to expedite the prosecution of the present application, claims 37 and 71 have been amended. Claims 37 and 71 recite heat-activated compositions. *Noel* does not teach, either explicitly or impliedly, a heat-activated composition for protecting or repairing at least one keratinous fiber according to the present invention. *Noel* also fails to teach each and every limitation of new claims 73-77.

Accordingly, for at least this reason, Applicants respectfully request withdrawal of this rejection.

Heisey

Claims 37-39, 41, 43, 47-49, 58, 60-63, and 66-72 have been rejected under 35 U.S.C. § 102(e) as being anticipated by WO 01/93831 ("*Heisey*") for the reasons set forth on page 5 of the present Office Action.

Applicants respectfully traverse this rejection, however, in order to expedite the prosecution of the present application, claims 37 and 71 have been amended. Claims

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Washington, DC 20005
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37 and 71 have been amended to recite that the inventive composition is heat-activated. *Heisey* does not teach, either explicitly or impliedly, a heat-activated composition for protecting or repairing at least one keratinous fiber according to the present invention. *Heisey* also fails to teach each and every limitation of new claims 73-77.

Accordingly, for at least this reason, Applicants respectfully request withdrawal of this rejection.

V. Rejection under 35 U.S.C. § 103

Claims 37-39, 41, 43, 47-49, 58, 60-63, and 66-72 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 01/93831 ("*Heisey*") for the reasons set forth on pages 6-7 of the present Office Action. Applicants respectfully traverse this rejection.

As discussed above with respect to the rejection under 35 U.S.C. § 102(e) over *Heisey,* this reference does not disclose a heat-activated composition. Accordingly, the modification proposed by the Examiner, *i.e.,* to actually reduce to practice a composition of glucosamine and xylose, fails to cure *Heisey*'s deficiencies.

Thus, for at least this reason, Applicants respectfully request withdrawal of this rejection.

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VI. Conclusion

Applicants respectfully request the reconsideration and the timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Thalia V. Warnement, Reg. No. 39,064

By: for Anthony Tridico
Anthony Tridico
Reg. No. 45,958

Date: **October 17, 2002**

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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Appendix

Version with markings to show changes made pursuant to 37 C.F.R.§ 1.121(c)(1)(ii):

37. (Amended) A composition for protecting at least one keratinous fiber from extrinsic damage or repairing at least one keratinous fiber following extrinsic damage comprising at least one compound comprising at least one C_5 to C_7 saccharide unit substituted with at least one amino group, wherein said at least one compound is present in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber**, and further wherein said composition is heat-activated**.

71. (Amended) A kit for protecting at least one keratinous fiber from extrinsic damage or for repairing at least one keratinous fiber following extrinsic damage comprising at least one compartment,

wherein said at least one compartment comprises a composition comprising at least one compound comprising at least one C_5 to C_7 saccharide unit substituted with at least one amino group,

wherein said at least one compound is present in said composition in an amount effective to protect said at least one keratinous fiber from said extrinsic damage or to repair said at least one damaged keratinous fiber**, and**

wherein said composition is heat-activated.

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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